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Statistical  
Reporting  
Service

# Agricultural Situation

U.S. Department  
of Agriculture

Vol. 52, No. 7

## THE SOVIETS DWARF US IN SIZE ...TRAIL US IN FARM EFFICIENCY

30 LBS.



**FERTILIZER**  
-LBS. PER ACRE-

36 0/0



**SHARE OF  
WORKFORCE  
ON FARMS**

1.7 MIL.



**TRACTORS**  
-MIL.-

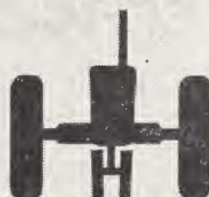
84 LBS.

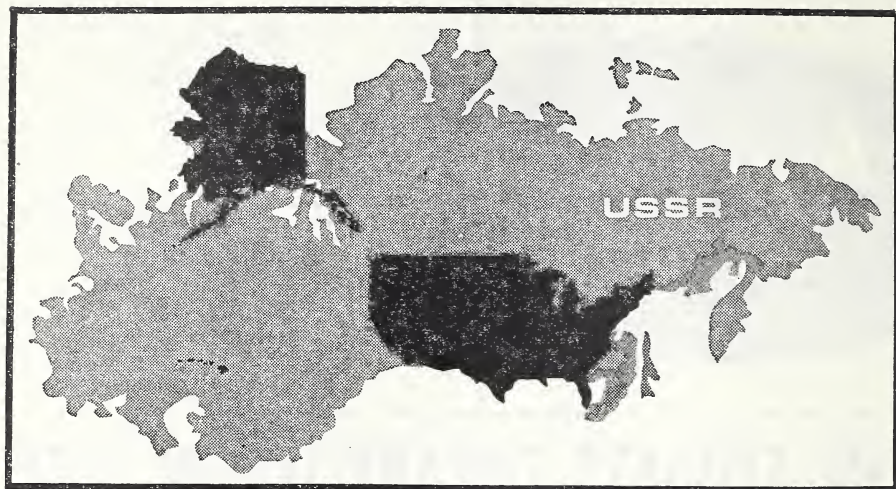


7 0/0



4.8 MIL.





**THEY  
ARE  
BIGGER  
WE  
ARE  
MORE  
EFFICIENT**

Many more farmers plant many more acres and get lower yields in the U.S.S.R. than we do in the United States. In 1966, one out of three of the Soviet Union's 110 million workers was employed in agriculture; in the United States the ratio was one out of 14 from a total working population of 73 million.

Figures are now available to make a comparison between their agricultural production and ours during 1966. That was a bumper year for the Soviet Union and a good year for the United States.

Soviet farmers sowed 511 million acres, much more than the 300 million we sowed. But the yields per acre for most crops were much lower in the Soviet Union. The exceptions were cotton and sunflower seed, in which the Soviets led, and vegetables, in which yields were roughly equal.

Although the Soviet farmer planted vastly greater acreages to grain, his output of eight grain crops totaled only 80 percent of the American farmer's production. Soviet production per acre averaged only 70 percent of United States for wheat, 65 percent for rye and oats, and 50 percent for corn.

## Comparisons of 1966 Crop Yields and Production

Crop	Yield per acre		Production	
	U.S.	U.S.S.R.	U.S.	U.S.S.R.
	<i>Bushels</i>		<i>Million bushels</i>	
Barley.....	38.5	23.0	393	1,102
Corn, grain.....	72.3	33.9	4,117	268
Flaxseed.....	9.1	5.2	23	22
Oats.....	44.9	29.0	801	517
Rye.....	21.8	14.1	28	472
Soybeans, for beans.....	25.4	10.5	928	22
Wheat.....	26.3	18.1	1,312	3,123
	<i>Pounds</i>		<i>1,000 bales</i>	
Cotton, lint.....	480	738	9,575	9,341
			<i>Million short tons</i>	
Rice, rough.....	4,322	2,354	4.25	0.7
Sunflower seed.....	894	1,008	0.03	6.23
			<i>Million pounds</i>	
Tobacco.....	1,933	1,161	1,888	404
	<i>Short tons</i>		<i>Million short tons</i>	
Hay.....	1.86	.67	121	53
Sugarbeets.....	17.5	8.7	20	81
Total fruits (including citrus).....			22.3	8.6
Vegetables.....	5.7	5.7	19.6	19.7
	<i>Hundredweight</i>		<i>Million hundredweight</i>	
Potatoes.....	210	84	307	1,744

### TOUGH WEATHER

Weather and management are important factors to consider when making comparisons. Weather in the Ukraine wheat area, which occupies the same latitudes as those between Quebec, Canada, and Juneau, Alaska, is often severe and dry. It resembles the Dakotas in temperature and Nebraska in moisture. The Soviet Union's weather, which keeps crop and pasture seasons short, has traditionally hampered farm output.

### STATE IS BOSS

Over 95 percent of the Soviet Union's land in farms is under state management. Privately worked land consists mostly of small plots that collective or state farm workers till in their spare time. The private plots of collective farm workers average about 1 acre; plots are somewhat smaller for state

farm workers. *About one-third the value of USSR's agricultural output comes from these small plots.*

The Soviet collective farm chairmen and state farm directors are somewhat like managers of U.S. corporate type farms. They manage large land areas and supervise many workers.

But Soviet farm managers are not as fully responsible for making decisions affecting the output or profits of their enterprises. Their job is to respond to directives, rather than to make independent decisions.

### BIG RED FARM

American farms, most of which are family run enterprises, are dwarfed by the Soviet complexes. Collective farms in 1966 averaged over 31,000 acres each, and employed 417 workers to sow about 7,000 acres. The state farms averaged over 120,000 acres each and employed 651 workers to sow just over 18,000



acres. By comparison, farms in the United States averaged 1.6 workers and 350 acres, 92 of which were sown.

The American farms make up in number what they lack in comparative size. In 1966, for example, we had 3.2 million farms. In contrast, Soviet collective farms numbered about 37,000, and their state farms totaled 12,000.

Yet, we have fewer farmers. Thus, on the U.S. farm each worker sows an average of 58 acres, while on a Soviet state farm each sows 28 and on a collective farm 17.

## WE OWN THE WHEELS

A big reason we do so much more with fewer farms is our large advantage in farm machinery.

Here is a comparison of some equipment on farms for both countries at the start of 1966, in thousands:

	U.S.	U.S.S.R.
Tractors.....	4,815	1,660
Trucks.....	3,100	1,017
Grain combines.....	880	531

U.S. farmers also applied nearly 12.5 million tons of fertilizer nutrients on their fields, averaging out to 84 pounds per acre in 1966. Soviet farmers used only about 8 million, an average of 30 pounds per acre, or less than half the U.S. application rate.

Jerome A. Levine  
*Economic Research Service*

## 1966 Livestock Production

Commodity	U.S.	U.S.S.R.
	<i>Million pounds</i>	
Beef and veal.....	20,604	8,245
Pork.....	11,328	7,440
Mutton, lamb and goat.....	650	1,587
Poultry meat.....	7,596	1,764
Milk.....	120,230	147,990
Butter.....	1,128	2,297
Wool.....	250	818
	<i>Billions</i>	
Eggs.....	66.4	31.7

## U.S.S.R. FARM POLICIES MAKE MORE SENSE NOW

The Soviet Union's stated agricultural objectives have remained basically unchanged since the introduction of massive collectivization in the late 1920's and early 1930's. These objectives are:

—to acquire, at the lowest cost, the largest possible supply of food and raw materials for domestic use and exports.

—to develop communism in agriculture and in the rural sector.

—to be as self-sufficient as possible in farm products.

Khrushchev, on his rise to power, attempted to improve Soviet agriculture by feeding in more capital, machinery, fertilizer, and land—especially land. And from 1953 to 1958, gains were made in agriculture—so much so that Soviet planners in 1958 turned their attention to other segments of the economy.

But pushed into the background, agriculture didn't get all the productive inputs it needed. Furthermore, reliance on extensive means (such as land expansion) to increase output made production especially sensitive to variations in weather. Output was therefore unstable.

Unattended and undernourished, agriculture once again began to stagnate and then deteriorate—especially in the grain and livestock sectors.

The climax of this deterioration—sparked by the grain crop failures in 1963 and 1965—was the dramatic shift of the U.S.S.R. from an important net grain exporter (averaging 6 to 7 million tons annually during 1959-62) to a major net grain importer (averaging about 7 million tons annually in 1963-65).

Agriculture's failure was a factor in Khrushchev's fall. His successors, charged with the rejuvenation of Soviet agriculture, have sought to do it essentially through intensive means. Larger grain crops have been the immediate goal. To achieve it, the Kremlin has altered many of its policies for agriculture and rural life.

Production targets and government planned purchases in the eighth 5-year plan for 1966-70 reflect a more realistic appraisal of the capabilities of Soviet agriculture and the needs of the country's farms.

# Crop Reporters: Those Vital Volunteers

You may never see a purple cow or ever hope to see one.

But if she exists, you can bet your bottom dollar a USDA crop reporter has already seen her.

That's what he's out there for, to observe and count noses, heads, ears and shoots so that farmers everywhere will have the up-to-minute facts about crops and livestock.

Once every 5 years, by law, the Bureau of Census takes a complete census of farms and farmers. This provides an accurate benchmark both for past and future crop statistics.

But farmers and businessmen can't wait up to 5 years for new farm information, what with the pace of technology advancing so rapidly. So the Statistical Reporting Service supplements the Census figures with intermediate surveys and gathers other information more recent than Census figures.

The resulting SRS reports then become the most timely and accurate statistics available. And SRS keeps them that way by updating and revising whenever new information makes a more accurate report possible.

The voluntary crop reporters play a vital role in providing this service throughout the year. Consider their part in the crop estimating program, for example. The annual cycle begins with a report on farmers' planting intentions. This is followed by an estimate of acreage planted, yield and production forecasts during the growing season, and estimates of harvested acreage, production and disposition of the crop.

On the first survey, around March 1, more than 100,000 farmers tell how many acres they intend to plant, and to what crop. Their voluntary replies by mail make the prospective plantings report possible.

The second acreage survey is taken in June, after most crops are in the ground. Interviewers go out into the field to obtain land use data on about 17,000 scientifically selected segments of land. At approximately the same time, mail questionnaires are received from more than 110,000 farmers.

The combined returns from the June Enumerative Survey and the mail questionnaires are used to make the July crop report. This provides the new growing season's most definitive estimate of acreage planted. Subsequent production forecasts during the season are based on the acreage estimate and yield prospects at the time of the forecast.

Small plots in some of the corn, cotton, wheat, and soybean fields that were in the enumerative survey are examined monthly during the growing season. Crops within these plots are counted and measured with extreme care and hand-harvested when mature.

Because of the scientific basis of selecting the sample plots, highly accurate information about yields is obtained despite the small size of the plots.

In October and November, nearly 200,000 farmers return questionnaires that provide information on the number of acres actually harvested.

Information on crop production for certain crops is collected from grain elevator operators, cotton gin operators, food processors, and others receiving crops from the farmer.

At any stage of crop growth or harvest, anything causing acreage losses or changes in growers' plans is relayed by SRS crop reporters for consideration in the latest report.

These reporters take into account seasonal progress, weather, disease, insects, quantities and types of fertilizers used, and other farming or livestock raising practices in evaluating conditions in their own areas.

Information from the various sources is used to update the previous estimates and forecasts. Frequently, changes are made in earlier yield per acre and production forecasts during the growing season.

To provide timely information, SRS publishes data almost daily. It issues some 700 reports a year from Washington on annual, quarterly, and monthly schedules—and some even on a weekly basis. These cover more than 200 farm products. Hundreds of other reports are issued in the States.

*Statistical Reporting Service*

## HYBRID CORN AND MILO AND NOW IT'S HYBRID BARLEY, MAYBE MORE

Barley, one of the world's oldest cultivated crops, has also been one of the most resistant to cross breeding—or more technically, what the scientists refer to as the use of first-generation hybridized seed.

Now, through the efforts of a USDA geneticist working under Agricultural Research Service and University of Arizona sponsorship, this type of hybrid has finally been produced. It's a real breakthrough in more ways than one.

First, Hembar, as the new hybrid is called, has been shown in field tests to yield 15 to 35 percent more grain than ordinary barley. So, what cross breeding once did so notably for corn and later for milo now promises something similar for barley.

Second, and perhaps even more important, the new method of rearranging genetic structure, as done with Hembar, makes it possible to hybridize many other important crops having a genetic makeup similar to barley.

USDA scientists estimate that using this new hybrid-producing method on such crops as rice, beans, and soybeans could boost the world food supply by as much as 10 percent.

The method can also be used to raise yields of some forage crops.

## MORE PEANUT BUTTER SANDWICHES, PLEASE

If an infinite number of mothers make an infinite number of peanut butter sandwiches and an infinite number of boys eat half of them, how many will be left?

An infinite number, of course. Though this is the nature of infinity, it's perhaps not representative of peanut butter or little boys.

On a finite level, the amount of peanut butter all of us—including little boys—have been eating in recent months has increased noticeably. From August 1967 through April 1968, there were 388 million pounds of peanuts reported used in making peanut butter.

This compares with only 362 million

pounds used during a similar period last year.

Greater marketings of farmers' stock peanuts via peanut butter and other food products reflect last year's record-large crop, a 4-percent increase in millings for this season through April 30, and a 2-percent reduction in commercial stocks from April 30 a year ago.

If you don't count the peanuts used to make oil, 82 million pounds of raw shelled peanuts went into food products this April, up from 70 million a year earlier.

The total of raw peanuts used in food products, excluding oil, for August-April of the current marketing season reached 758 million pounds, 6 percent more than last year. Millings of farmers' stock peanuts for the same period came to 2,057 million pounds, up 4 percent.

Commercial peanut stocks went down 2 percent from last year, however. They equaled 864 million pounds (net weight) of farmers' stocks. This consisted of 180 million pounds of farmers' stock, 32 million pounds of roasting stock, and shelled peanuts equal to 652 million pounds of farmers' stock.

*Statistical Reporting Service*

## IN SALAD OIL SWITCH SOVIETS SHIP IT NOW

The Soviet Union, a taker of vegetable oilseeds and vegetable oils a decade ago, has now become a net exporter of these products.

The Soviet oilseed picture is dominated by sunflowerseed and cottonseed. Together they account for about 90 percent of the country's output of vegetable oilseeds and oils.

The sunflowerseed harvest was 6.1 million metric tons in 1967. The cotton crop hit an estimated 9.3 million bales, producing almost 4 million tons of cottonseed.

U.S.S.R.'s cotton crop for the first time in history exceeded ours, which came only to 7.4 million bales, record low for U.S. output this century.

Soviet sunflowerseed output has more than tripled since 1950. And cottonseed available for crushing has risen about two-thirds.



# OUR FARM EXPORTS TOP \$100 BILLION

U.S. agricultural exports since World War II are passing \$100 billion in total value this summer, according to estimates of the Economic Research Service.

Notable points about this performance include:

- An uptrend in the value of our agricultural exports. For the year ended this June 30, they totaled an estimated \$6.4 billion. This is about twice the annual values recorded in the late forties. Exports have exceeded \$6 billion in each of the past 5 years.

- A switch from emphasis on agricultural shipments under Government programs early in the period to mostly farm trade for dollars later. Aided shipments were heaviest in relation to total farm trade in the early postwar years as the United States helped rebuild the war-torn economies of Europe and Asia. In the late forties, the value of aided exports about equaled the value of exports for dollars. In recent years, dollar trade has been running ahead by a ratio of 4 or 5 to 1.

- A fairly stable relationship between the value of agricultural and total U.S. exports, with agriculture making up about 25 percent.

U.S. farm product exports over the years have been widely diversified. But year in and year out, leading commodities have included wheat, cotton, corn, soybeans, tobacco, and rice. Altogether, these products have accounted for about two-thirds of the value of our farm exports in 1946-68.

Export expansion has been the rule. In 1946, for example, our wheat and flour shipments were valued at \$610 million. For the year just ended, they likely topped \$1.4 billion.

Leading takers of U.S. agricultural goods in recent years have been the European Common Market countries as a group, and Japan. Twenty years ago, both were still reeling from the effects of World War II. Each year since 1960, the EEC has taken more than \$1 billion worth of our farm products. And Japan has become our most significant single-nation customer.

[Billion dollars]

Year ending June 30	U.S. agricultural exports		Total	
	Government programs	Dollar sales	Agricultural exports	All U.S. exports
1946-----	1. 8	1. 1	2. 9	8. 5
1947-----	0. 9	2. 7	3. 6	12. 7
1948-----	1. 6	1. 9	3. 5	13. 8
1949-----	2. 3	1. 5	3. 8	12. 7
1950-----	2. 0	1. 0	3. 0	10. 1
1951-----	1. 2	2. 2	3. 4	12. 6
1952-----	0. 6	3. 4	4. 1	15. 6
1953-----	0. 5	2. 4	2. 8	15. 1
1954-----	0. 6	2. 3	2. 9	15. 2
1955-----	0. 8	2. 3	3. 1	14. 9
1956-----	1. 3	2. 2	3. 5	16. 9
1957-----	1. 9	2. 8	4. 7	20. 7
1958-----	1. 2	2. 8	4. 0	18. 7
1959-----	1. 2	2. 5	3. 7	17. 4
1960-----	1. 3	3. 2	4. 5	19. 1
1961-----	1. 5	3. 4	4. 9	20. 5
1962-----	1. 6	3. 6	5. 1	21. 4
1963-----	1. 5	3. 6	5. 1	21. 6
1964-----	1. 5	4. 6	6. 1	24. 7
1965-----	1. 7	4. 4	6. 1	26. 3
1966-----	1. 6	5. 1	6. 7	28. 9
1967-----	1. 6	5. 2	6. 8	30. 9
1968 (est.)-----	1. 5	4. 9	6. 4	31. 3
Total 1946-68-----	31. 7	69. 1	100. 8	430. 1

Figures may not add to totals due to rounding.

# TOWARD IMPROVED MEALS FOR ALL . . .

## The Pork Chop Is Better

U.S. consumers want leaner pork, and they are getting it. Farmers' and meat-packers' efforts are paying off. Over the past 7 years, lard yield per hog has gone down nearly 20 percent.

And USDA now reports that carcass grades have meanwhile shown a substantial increase in the proportion of higher grade hogs slaughtered.

An estimated 49 percent of the barrows and gilts slaughtered in federally inspected plants from April 1967 to March 1968 graded No. 1—or lean in relation to length and weight.

This represents a big improvement over the past few years. In a comparable 12-month period in 1960-61, for example, a similar study found that only one-third of the hogs ranked in the top grade.

The typical barrow or gilt pork carcass is about one-third of an inch longer now compared with 7 years ago. Generally, the longer hog is leaner.

Fat hogs grade No. 3, at the other end of the scale. Their numbers in 1967-68 dropped to 12 percent, down from 25 percent of the total only 7 years ago.

The proportion of No. 2 hogs held about steady at 35 percent. Medium and cull grades totaled less than 3 percent in both studies.

These preliminary figures come from an Economic Research Service study made with Consumer and Marketing Service assistance and not yet published in its entirety.

Carcass grades for the study were obtained for 57,000 hogs, close to one in a thousand of total slaughter. A USDA hog grader sampled and graded 121 full-day hog kills in 56 hog slaughtering plants throughout the United States—a sample chosen to represent all hogs in all regions and seasons.

Official standards for barrow and gilt grades were revised effective April 1, 1968. The revised grades reflect more accurately the improved values of the U.S. pig crop, and are more comparable with grading systems used by some large packers to help producers guide shifts in production.

## Food Gets to the Needy

A big problem of being poor is the struggle to get enough good food. But in many areas—thanks to USDA and other Federal, State and local programs—the burden has been lightened.

USDA family food programs—expanded greatly from 1,200 counties in 1961 to 2,200 counties now—help feed some 5.8 million people, double the number just 7 years ago.

The Food Stamp program alone adds \$16 million a month now to the food-buying power of low income families.

A large percentage of the food provided through both programs helps feed needy children.

In addition, USDA's National School Lunch program has fostered and encouraged better nutrition for all school children for more than 22 years.

About 73,000 public and private schools served program-sponsored lunches this school year. Some 12.2 percent, or about 2.3 million, of the children attending these schools received free or reduced-price lunches because their families couldn't afford to pay.

In 1966, the Child Nutrition Act started the USDA on pilot breakfast programs that reached 150,000 or so mostly needy youngsters at school by the second year. Later the Department was authorized to provide lunches for needy children in summer camps and to expand and continue the school breakfast programs.

Other USDA programs look into the causes of inadequate diets among all Americans, rich and poor alike.

For example:

*Nutrition research* by USDA focuses on the effect of food balance, living conditions and other factors on the way people live, grow, and raise healthy families.

*Food science research* by USDA takes a close look at what happens to the nutritional values of foods on their way from the farmer to the average family's table.

*Food consumption research* involves surveys to determine the kinds, quantities, and costs of foods used by people from all walks of life. The results are used to develop standards that will improve diets.

# QUALITY, AVAILABILITY, CONVENIENCE

## Mealtime Chores Shrink

A famous Missourian once said, "If you can't stand the heat, get out of the kitchen."

And millions of farm wives seem to be trying their hardest to do just that.

In 1965, rural farm families spent 61 percent more than they did a decade earlier on ready-to-eat cereals, frozen dinners, dehydrated soups and juices and other convenience foods (32 in all) that allow wives to work less in the kitchen.

This compares with an average 34 percent increase in money spent on the convenience foods by all U.S. households over the same period.

But the value of convenience foods consumed per person per week was less for farm families (\$1.98) than for the average of all U.S. families.

City households, on the other hand, spent an average of \$2.58 per person per week on convenience foods in 1965.

These figures come from an Agricultural Research Service survey of food consumption of U.S. households. It was conducted in the spring of 1965 to match a similar survey in 1955.

The combined value of the 32 convenience foods purchased during the 1-week period of the survey rose from \$6.15 per household in 1955 to \$8.13 per household 10 years later. The increase per person rose from \$1.84 to \$2.47.

Low-income households in both rural and urban areas showed a 47-percent increase in use of convenience foods. The increase for the high-income group was about 28 percent.

Fresh, commercial fruit juice was one of the biggest gainers over the 10-year period, with nearly 4 times as much consumed in 1965 as in 1955. At the same time, Americans used up 3 times more powdered fruit ades and punches and spent 9 times as much for them; however, the amounts used in 1955 were very small.

The amount of all commercially processed soups consumed went up, but the gain was greatest for dehydrated soups. People spooned 100 percent more dehydrated soups in 1965 than in 1955 and 30 percent more canned, condensed soups.

## But Do We Eat Better?

When a recent survey by the Agricultural Research Service showed that only half of U.S. households in 1965 had food supplies that provided "good" diets and a fifth actually had "poor" diets, it came as no great surprise to many American farmers.

They were already aware from decreased per capita sales of such nutritive foods as milk and milk products that our diets have trended toward other foods over the past decade.

According to the study, the amount of milk, cream, and cheese used per surveyed household weekly in 1965 was down 10 percent from levels recorded in a similar survey in 1955. Use of fruits and vegetables other than potatoes was down 7 percent during the same period.

A decrease in use of flours and cereals, fats and oils, and sugar was balanced in part by a shift to prepared bakery products which increased 14 percent. Use of meat and meat products increased 10 percent from 1955 to 1965.

As you might expect, the survey showed that the percentage of families with good diets rose as their income levels increased.

However, almost one-tenth of the interviewed householders with family incomes of \$10,000 and over had what the researchers had considered to be poor diets.

For survey purposes, both in 1955 and 1965, a good diet was defined as one providing the National Research Council's recommended allowance for protein, calcium, iron, vitamin A, thiamine, riboflavin, and ascorbic acid (vitamin C).

A poor diet was defined as one providing less than two-thirds of the recommended allowance for one or more of these seven essential nutrients.

Diets of farm households included in the survey were found to be higher in calcium, iron and thiamine because they drink more milk and eat more cheese and grain products. City folks, however, had more dark-green and deep-yellow vegetables and citrus fruits. So they got more vitamin A and ascorbic acid.





Based on Information Available July 1, 1968

### **POULTRY FLIES HIGH**

Supplies of poultry meat in first quarter 1968 were near year-earlier levels and prices were considerably higher. The birds still face strong competition from large supplies of red meat in the second half of 1968. But continuing strong demand is expected to keep poultry prices averaging above the previous year.

### **FRUIT SUPPLIES TO STAGE COMEBACK**

Supplies of both fresh and processed deciduous fruits in 1968-69 are likely to be substantially above the short levels of the past season. Prices, though, will probably average lower than in the past season.

With favorable weather and abundant water supplies, prospects are also good for the new citrus crop. But until new crop harvest begins in the fall, both fresh and processed citrus supplies will be considerably below recent levels, and prices are expected to continue firm.

### **547 BILLION CIGARETTES—A LOT OF SMOKE**

In the year ended on June 30, 1968, U.S. smokers consumed an estimated 547 billion cigarettes, slightly more than in 1966-67. Cigar and cigarillo consumption during the same period was about the same as the 3.07 billion in 1966-67.

### **WOOL PRODUCTION SHEEPISH**

Prices of U.S. shorn wool this year are expected to approximate the 1967 average of 39.8 cents a pound, grease basis. Because 7 percent less sheep were recorded as of January 1 than a year earlier, shorn wool production will be moderately under last year's 188 million pounds, grease basis. Despite continuing strong competition from man-made fibers, the industry looks for some recovery in wool use the rest of 1968.



# A CITY TERMINAL MARKET IS REBUILT

## Its Success in Bucking A Trend Has Been Mixed

When the farmer of the future takes his produce to market, will the market still be there?

Corporate chains and retail organizations are increasingly taking over the functions of the still colorful but not so bustling terminal market.

In 1958, the fourth largest terminal market in America—in Philadelphia—attempted to reverse this trend. The results thus far have been mixed.

In 1959, the old Dock Street Market, with 60 percent of Philadelphia's produce wholesalers, handled half the market volume of the city. Dock Street has since been razed to make room for a redevelopment project and its functions have been transferred to a new food distribution center.

In 1964, the food distribution center, with half the city's wholesalers, handled two-thirds of the business.

Why did half the wholesalers do more business in 1964 than 60 percent had done in 1959? For one thing, there was a high mortality rate of whole-

salers during the period. There were 207 in 1958 versus 154 in 1964. One out of every three firms went out of business and only nine new ones entered the field. In general, the smaller wholesalers were the ones dropping out.

What caused this attrition? Fewer fresh fruits and vegetables entered the Philadelphia market, as processed goods garnered an increasing share of shelf space. Also, more produce moved directly from fields to chain stores, bypassing the wholesale market entirely.

While the number of chainstore organizations receiving produce through wholesale channels dropped from nine in 1958 to four in 1964, the volume of produce received directly by these organizations increased 39 percent.

Nevertheless, Philadelphia wholesalers as a group were more optimistic about the future of their businesses in 1964 than in 1958 when 60 percent thought the outlook was bad. In 1964 only 41 percent felt that way. The modern facilities of the new food distribution center apparently made the difference.

## Among MD's, the Specialists Go to Town

### They Limit Rural Gains In Health Services

Though modern transportation has lessened the need for complete local medical services in rural areas, many farmers still do not have easy access to proper care when they need it.

There are more than half again as many physicians per 100,000 population in urban areas as in rural ones.

One reason is the sparse rural population. Another is the lower incomes of rural dwellers. There simply aren't enough people and money in the countryside to support medical personnel and facilities adequately.

Comparisons between 1959 and 1963 indicate that medical services per capita for persons living in isolated rural counties have shown little improvement, while for persons living in or near metropolitan centers they have increased greatly.

Since World War II, the trend toward specialization in medical practice has increased. The ratio of specialists in the United States grew from 36 percent of doctors in private practice in 1950 to 61 percent in 1963.

With the exception of chiropractors, the more rural the area, the lower the ratio of medical specialists to the area's population.

Specialists of all types, of course, are consulted by more city people than people from rural areas, according to 1963 data. On a percentage basis, however, optometrists were visited about as often by rural as urban patients. That is, there was as large a percentage of the rural as the urban population visiting the optometrist.

General practitioners tended to be dispersed more equitably than specialists among the entire population.

*Economic Research Service*

# Friend or Foe?

You're looking at a future friend of the farmer.

Not a close friend, in one sense—because it will always be at least 360 miles away (straight up)—but a potentially valuable friend nevertheless.

Most details about getting it up there are solved, but its interior devices need more work.

Called the Earth Resources Technology Satellite, it is planned for launch in 1971 or 1972. The sensors that will fill it are now being tested in airplanes. How far along are developments of the satellite's sensors, its eyes and brain?

Here's the latest rundown:

**Area:** Fields 10 acres or larger can be measured with closer than 1 percent accuracy.

**Specific crops:** Remote sensing can distinguish between crops with better than 90 percent accuracy, but there are times that remote sensing can't tell what grows in a field. Corn and soybeans, for example, look alike to the sensors until the middle of July.

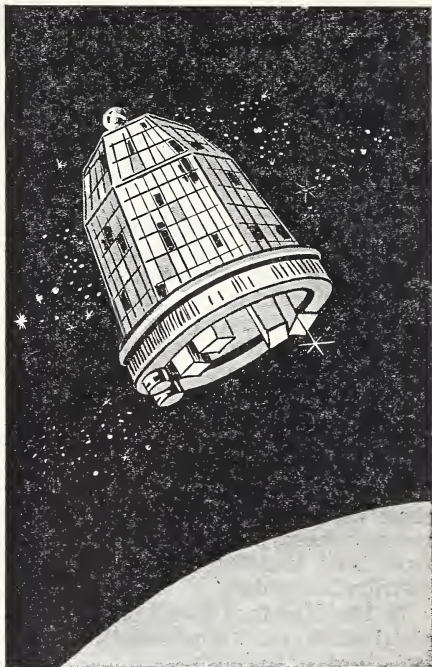
Two methods of remote sensing are under study to tell what grows: the optical scanner and false-color techniques.

- **Optical Scanner:** This device senses about 18 different spectral bands, starting with ultraviolet and going through infrared, and records them on tape. It's much like taping a TV program, and optical scanner tapes can be played back on sort of a TV tube to show pictures of fields. However, these tapes are mostly fed into computers. The computer is keyed to recognize what grows by the degree of tonal value recorded on the tapes, and it prints out a map of the land showing what is growing.

- **False Color:** Although most plants look green to the human eye, they also consist of many other colors. Photos of plants taken through various filters will show how red, how blue, how ultraviolet, how infrared and so on, that plants in a field are. The plant's colors will identify it, plus tell the viewer other things about it.

Of course, the computer programmer first has to be told which tonal combinations represent which crops so he can make the computer work right.

His guides, or the interpretation keys, for cereal grains, fruit trees, and



## HE'LL BE SEEING YOU

certain vegetables are being compiled for publication.

**Yields:** Yield prediction will require repeated coverage during the growing season, since fickle weather can change prospects back and forth. For this the agricultural satellite may become particularly useful.

Right now, research is underway to determine how good the crop is by using false-color techniques.

For example, gradual changes in color of a crop during the growing season, as recorded during periodic satellite passes, could be related to optimal and minimal growth patterns. And judgments of yield progress could be made.

False-color techniques have also been used in tracing the spread of Dutch elm disease and bark beetle infestations, and in finding nutrient deficiencies in crops.

**Irrigation:** Remote sensing can tell a farmer if and when his field needs irrigation. It can also tell him if one part of his field got enough and another didn't.

Agricultural Research Service

Growing populations and food needs, and the possible consequences of a world crop boom or failure on U.S. agriculture prompted Economic Research Service to look at how well other representative nations handle their reports of crop progress during a growing season.

In a sample of 34 countries, 23 were found markedly deficient as to the accuracy, timeliness, or adequacy of their agricultural data gathering. Many were developing nations with rapidly expanding populations—the ones who need data the most.


The nations with the highest scores for crop reports were Canada, Netherlands, United Kingdom, and United States. Their data gathering agencies function smoothly and get information out before or close to harvest.

Australia, Denmark, East Germany, United Arab Republic, Romania, Spain, and Yugoslavia had organizations doing adequate but not intensive jobs. Information was slightly less timely and its dissemination less widespread.

[illegible][illegible]

Could the satellite and computer eventually do away with the crop and livestock reporting system with which most readers of this magazine cooperate?

Anything is possible, of course. But such a blanket substitution is highly unlikely for several reasons. For example:

 The present system is economical:

It results in accurate estimates both of major and of many specialty and localized crops:

■ It reflects planting intentions, marketing and farrowing plans, crop volumes and livestock weights marketed, and quantities of goods in storage.

For the United States, the satellite might best be used to supplement our proved estimating system if the costs can be managed. However, in some other countries with less precise data needs and less advanced crop reporting systems, such remote sensing could be helpful.

The other 23 countries, besides having trouble with timeliness, had problems with comprehensiveness, which involves adequacy of surveys and completeness of crop enumeration.

An orbiting sensor such as the Earth Resources Technology Satellite could be used to give these countries a knowledge of land potential, the extent of areas devoted to particular crops, and a rough gage of current crop yields.

Cropped fields as shown by computer after being fed optical scanner tapes from a plane flying half-mile overhead. O=oats, R=clover, W=wheat, Y=rye, A=alfalfa, S=soybeans, +=field boundary, \*=computer check, \$=extraneous matter.



# Does It Pay To Precondition Your Calves?

Take a young calf off the range and away from his mother. Sort, load, and ship him with others from his and other herds. Jostle him for hundreds of miles in a truck or cattle car.

Then, after what is likely to be a long period of time and under conditions he is not used to, give him food and water. Food, that is, such as he has never seen or tasted before.

And all the while expose him to many new and different diseases.

Result: As one scientist, John Herrick of Iowa State University Extension Service calculates it, a subsequent loss of from \$10 to \$20 per animal from sickness, shrink, death, and wasted feed.

Why can't many of these diseases be prevented before they hit?

They can, thanks to a comprehensive management program called preconditioning, which Herrick advocates.

Preconditioning is not new. Some cattlemen have been doing it for years. Basically, it calls for the adoption of the following practices in the raising of feeder cattle.

—Make sure calves are weaned at least 30 days before they are shipped;

—Accustom calves to eating and drinking from bunks and troughs;

—Vaccinate against specific diseases calves are likely to encounter enroute to the feedlot;

—Treat them for grubs, and worm them if necessary.

What all this means to the feedlot operator is obvious. But what's in it for the cow-calf producer?

According to a recent test by three Iowa producers, the cost of preconditioning was fully recovered, and then some.

The improvement was even greater as recorded by an area Vocational Agriculture chapter testing preconditioning as a class project.

The three cow-calf producers' calves were weighed the day they were weaned. Recommended preconditioning practices were followed.

Calves were weighed again a month later. After all veterinary and feed costs were deducted, the calves had increased in value from \$1.94 to \$5.67 per head as a herd average (weight increase multiplied by 28 cents per pound).

These weight increases were obtained despite extremely unfavorable fall weather.

The Vo-Ag chapter kept cost records on a group of vaccinated (but not grub-treated) heifers after weaning. The heifers gained 77 pounds over a 39-day post-weaning period and increased in value an average of \$11.38 per head after feed and veterinary costs.

*Federal Extension Service*

## Packers' Earnings Jump, Still Lag the Rates of Other Food Industries

Management of 25 leading meat-packing corporations had cause to feel bullish about things last year.

Total net income for all 25 meatpackers rose a dramatic 50 percent—far more than any other industry marketing farm products.

But if no cheers were heard it was understandable.

The meatpackers' net incomes as percentage of sales and of stockholders' equity were lowest of all food manufacturing industries, although they were above the previous year.

Meatpackers' margin as a percentage of sales rose from 0.6 percent in 1966 to 1.0 percent in 1967. Except for a 1.1-percent rate in 1964, meatpackers' margins on sales in the 1960's have ranged from 0.6 percent to 0.8 percent.

The 1967 increase in meatpackers' net income coincided with an increase in livestock supplies and a decline in farm and retail prices of livestock products.

These conditions may have favorably affected meatpackers' profits. A constant dollar margin per head of livestock slaughtered, in a period of rising livestock supplies and declining live animal prices, would have the effect of increasing the percentage markup on sales.

Although meatpackers' net income as a percentage of stockholders' equity rose to 7.9 percent in 1967, this was the lowest in the food manufacturing industry.

The rate of return in other industries ranged from 9.9 percent in the sugar industry to 15 percent in the baking industry.

*Economic Research Service*





# SAM STAT SAYS

## "Check My Data"

### A brief roundup

JULY 1968

In This Issue

■ An estimated 5 million persons were employed on farms during a check week in late spring this year, 4 percent below the level of a year ago for the week. ■ Producers' egg prices averaged 30.6 cents a dozen in the first quarter of 1968, 4.2 cents below last year; seasonal declines in May reduced prices to an average of 27 cents a dozen, about 2 cents below a year earlier. ■ With a total still output of only 67,740 barrels, production of gum turpentine in the 1967-68 season was the lowest in 70 years, and was down 20 percent from last year—the sixth consecutive annual drop since an upturn in 1961. ■ Winter wheat production is estimated at a record-high 1.2 billion bushels, 2 percent over 1967 output and 27 percent above average despite an acreage cut. ■ The first-quarter average wholesale price for ready-to-cook broilers in nine cities was 27 cents a pound, 1 cent above a year ago. The April-May average was 27.5 cents a pound, or 2 cents above the year-earlier price. ■ Citrus production for this past season is down an estimated 28 percent from the previous season. Noncitrus fruit production this year is expected to top last year.

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Editor: Ben Blankenship

### BROWN SWISS COWS CROSS WELL WITH BEEF BULLS

Crosses between Brown Swiss dairy cows and Hereford, Angus, and Charolais bulls produced calves heavier at birth and faster-gaining than beef purebreds in tests at the U.S. Range Livestock Experiment Station in Miles City, Mont.

Over a 4-year period, researchers tested all possible combinations of straightbred and crossbred matings between bulls and cows of these

breeds and compared them with beef-dairy crosses.

According to the study, calves born to Brown Swiss dams bred to bulls of the beef breeds weighed more at birth and made higher daily gains than other crosses or straightbreds.

On the average, crossbred steers from Brown Swiss mothers outweighed steers from beef mothers by 12 pounds at birth, even though both groups of steers were sired by the same bulls.

Crossbreds with Brown Swiss mothers gained 0.3 pound more per day before weaning and weighed 74

pounds more than the beef breeds when both were weaned.

The reasons? Researchers speculate that the heavy birth weights of calves born to Brown Swiss mothers can be associated with the relatively large frame of that breed.

And the rich and copious supply of milk produced by the Brown Swiss dairy cow may have contributed to the fast gains of their crossbred calves that occurred before they were weaned.

*Agricultural  
Research  
Service*

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